



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,101	06/08/2006	Yasuhiro Takaki	042715-5020	1159
9629 7590 04/28/2008 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				
EXAMINER CULBERT, ROBERTS P				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
04/28/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,101

Applicant(s)

TAKAKI, YASUHIRO

Examiner

Roberts Culbert

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 February 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3 and 13-19 is/are rejected.
7) ☒ Claim(s) 4-12, 20 and 21 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date 6/8/06, 8/14/06
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ ~~Notice of Informal Patent Application~~
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, Claims 1-21 in the reply filed on 2/29/08 is acknowledged. Claims 22-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Objections

Claims 4-12, 20 and 21 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,772,905 to Chou.

Regarding Claim 1, Chou teach a method for forming a pattern in a resist film on a substrate by using a first mold provided with concave and convex portions (See Figure 9 and Figures 1a-1d), comprising the steps of: (1) pressing the first mold onto the resist film to transfer the concave and convex portions of the first mold to the resist film, while heating the first mold to a predetermined temperature or after having heated the first mold to a predetermined temperature; (Col. 4, Lines 65-67)

(2) separating the first mold from the resist film; (Figure 1c) and

(3) etching the resist film to expose a surface of the substrate (Figure 1d).

Art Unit: 1792

Regarding Claim 2, Chou teach wherein the pressing step is carried out so that a bottom of the concave portion avoids contacting with a surface of the resist film. (Figure 1b)

Regarding Claim 3, Chou teach a hardness of the first mold is higher than a hardness of the resist film such that an imprint may be formed by pressure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,772,905 to Chou ('905) in view of U.S. Patent Application Publication 2005/0146078 to Chou et al. ('078).

Regarding Claim 13, Chou ('905) teach a method for forming a pattern in a resist film on a substrate by using a mold provided with concave and convex portions, comprising the steps of:

(a) arranging the mold on a vertically moving actuator; (See Figure 9 and Figures 1a-1d)

(b) mounting the substrate on a sample base arranged in opposition to the actuator so as to oppose the mold;

Art Unit: 1792

- (c) mounting the mold on the substrate;
- (d) supporting the sample base having the substrate by a support; and
- (e) moving the actuator so that the mold moves away from the resist film.

Chou ('905) further teaches mounting the mold on the substrate, (See Figures 1a-1d), but do not also teach mounting the substrate on the mold. However, Chou et al. ('078) teaches double sided processing using mechanical means or fluid pressure. Chou et al. ('078) teaches mounting both sides of a substrate with the mold. (See Figures 8-14)

It would have been obvious to one of ordinary skill in the art at the time of invention to mount a mold on the substrate as recited by Chou et al. ('078) in order to form a double sided pattern by imprinting.

Regarding Claim 14, Chou teach moving the actuator so that the mold and the resist film make contact while heating the mold to a predetermined temperature or after having heated the mold to a predetermined temperature.

Regarding Claim 15, Chou teach moving the actuator so that the mold separates from the resist film.

Regarding Claim 16, Chou teach etching the resist film to expose a *surface* of the substrate.

Regarding Claim 17, Chou teach imprinting is carried out so that a bottom of the concave portion of the mold avoids contacting with a surface of the resist film.

Regarding Claim 18, Chou teach a hardness of the mold is higher than a hardness of the resist film such that imprinting may be performed.

Regarding Claim 19, Chou teach the predetermined temperature of the mold is equal to or substantially equal to the glass transition temperature of the resist film. (Col. 4, Line 57 – Col. 5, Line 14)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571)272-1433. The examiner can normally be reached on Monday-Friday (8:30-5:00).

Art Unit: 1792

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roberts Culbert/
Primary Examiner, Art Unit 1792